(No Model.)

C. M. KILER.

WIRE TIGHTENER.

No. 430,581. Patented June 17, 1890.

Fig. 1.

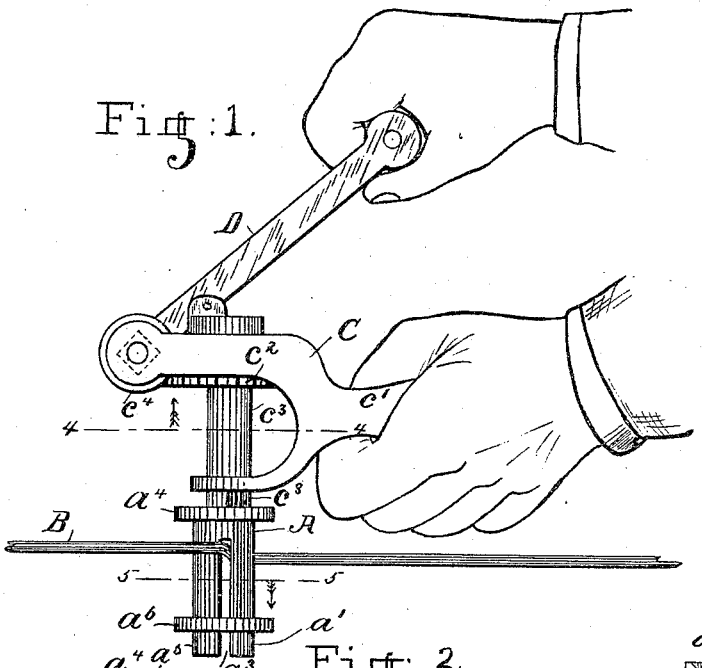


Fig. 2.

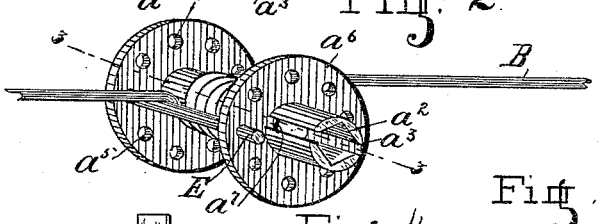


Fig. 3.

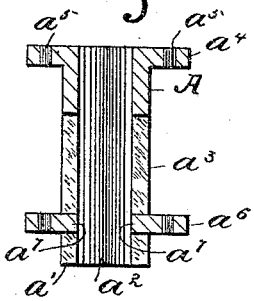


Fig. 4.

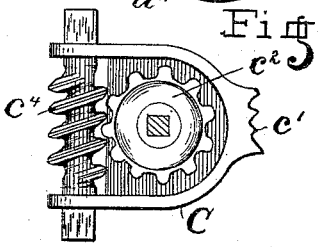
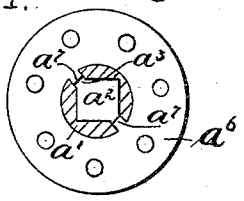


Fig. 5



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UNITED STATES PATENT OFFICE.

CHARLES M. KILER, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF TO ROBERT E. POINDEXTER, OF SAME PLACE.

WIRE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 430,581, dated June 17, 1890.

Original application filed February 28, 1890, Serial No. 341,975. Divided and this application filed April 22, 1890. Serial No. 349,014. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. KILER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Wire-Tighteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wire-tighteners for wire fences, and is intended as a divisional part of the application for wire fasteners and tighteners filed by me in the United States Patent Office February 28, 1890, Serial No. 341,975, to which reference may be had.

The object of the present invention is to provide a cheap, simple, and durable device to attach to and stretch wires at any desired point between fence-posts, especially wires of fences unprovided with suitable tighteners.

In the construction of long-line wire fences it has been found extremely difficult to draw the wires taut without the employment of wire-stretchers at each end of the wire, permanently secured to the posts, and even if the wires are drawn taut and secured directly to the post expansion and continual strain will frequently cause them to sag near the centers, and as permanent tighteners for every wire at each end of the lines are very expensive and as wires secured directly to the posts without tighteners will become loose and sag the sale of farm-fencing has been limited; and this invention has for its chief object the provision of a simple and inexpensive device whereby any inexperienced person may tighten the wires of his own fence at very slight cost.

With these objects in view my invention consists in the special construction and in the combination and arrangement of the several parts of the wire-tightener, substantially as hereinafter described, and set forth in the claims.

Figure 1 represents in side elevation a wire-tightener and the device for securing the wire in a taut condition as applied to the wire of a fence and as constructed in accordance with my invention; Fig. 2, a perspective view of the wire-holding spool as detached from its winding device, showing the manner in which the wire is held taut after being wound thereon; Fig. 3, a longitudinal section of said spool on dotted line 3 3, Fig. 2; Fig. 4, a cross-sectional detail of the same on dotted line 4 4, Fig. 1, looking in the direction of the arrow, the crank being removed; and Fig. 5, a cross-section on dotted line 5 5, looking in the direction of the arrow, Fig. 1.

In the drawings, A represents a wire-winding spool having a spindle a', with a square or other angular hole a^2 formed centrally and longitudinally through its entire length, and a longitudinal slot a^3 extending from the end about two-thirds its entire length, through which the wire B is threaded or slipped to hold it while tightening it, as clearly shown in Figs. 1 and 2. Formed integral with and at one end of the spindle a' is a head a^4, and formed transversely through said head (preferably in a circle) are a series of holes a^5, the purpose of which will be hereinafter fully explained.

Loosely and removably mounted upon the free end of the spindle a' is an annular collar a^6, having a series of holes through it to correspond and register with the holes in the fixed head of the spindle, said collar also having a fin or projection a^7 upon its interior to engage in the slot a^3 in the spindle to prevent its turning upon said spindle accidentally.

In operation the slot a^3 of the spindle a' is engaged with the wire of the fence, the collar a^6 being removed and the wire being slipped into said slot from the end, after which the collar a^6 is replaced upon the end of the spindle, its fin being projected into the slot a^3, which prevents its turning, and the spool is then turned by means of a geared winding mechanism hereinafter described.

The geared winding mechanism consists of a casing C, having a suitable handle c', a pinion c^2, journaled in said casing and having a shaft c^3 with a square end to fit the square opening a^2 in the spool, and a worm c^4, located at right angles to the axis of the pinion, with which it meshes, having a square-ended shaft

to be engaged by the crank-like wrench D, as clearly shown in Fig. 1. With this mechanism, after the square end of the pinion-shaft has been engaged with the spool A, the revolution of the crank turns the worm, which in turn revolves the pinion and spool and winds the wire upon said spool with very little exertion on the part of the operator. When the wire is wound and drawn sufficiently taut, a pin E is extended through the holes in the collar and head of the spindle of the spool underneath or above the wire, as the case may be, to prevent the spools turning and the wires unwinding, after which the winding mechanism is removed from the spool and the spool is left upon the wire.

I claim—

1. The spool A, constructed of metal in two pieces and consisting of the spindle a', having the annular head a^4 formed upon it, with the holes a^5 therethrough, and having the central square opening formed axially through it from end to end, with the bisecting longitudinal slot a^3, and the removable sleeve or collar a^6, having openings or holes to register with the holes in the head a^4 and the fin or projection a^7 to enter the slot in the spindle to prevent turning, and the pin E, extended through two registering holes in the collar and head to prevent the spool from turning back after the wire is wound thereon, substantially as and for the purpose set forth.

2. A winding-spool for wires of fences, consisting of the slotted spindle a' and head a^4, formed integral therewith, with the holes a^5 therethrough, as shown, in combination with the perforated loose and removable collar a^6, having the projecting fin a^7 to enter the slot of the spindle, in combination with an incased geared mechanism, as set forth, to turn said spool and wind the fence-wire thereon, as and for the purpose described.

3. In a wire-tightening device, the casing C, provided with the handle c', and having an intermeshing pinion and worm journaled therein, with a square-ended shaft projected from the pinion beyond the casing, a device to turn the worm to revolve the pinion and shaft, in combination with the spool A, having the slotted spindle a' to engage the fence-wire, and having the perforated head a^4 and perforated collar a^6, with the fin to enter the slot in the spindle, said spindle having a square axial opening to receive the square end of the pinion-shaft, and the pin E, to extend through the perforations in the head and collar to prevent the unwinding of the wire on the spool after the same is drawn taut, all as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES M. KILER.

Witnesses:
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